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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,948	01/03/2002	David J. Nelson	83620NAB	2138

7590 12/19/2003
Milton S. Sales
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EXAMINER

DOWLING, WILLIAM C

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,948

Applicant(s)

NELSON ET AL.

Examiner

William C. Dowling

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 53 is/are allowed.
- 6) ☒ Claim(s) 1-15, 18, 20-23, 26, 28-42, 46 and 48-52 is/are rejected.
- 7) ☒ Claim(s) 16, 17, 24, 27, 43-45 and 47 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1302.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 15, 18, 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is indefinite because it has no proper antecedent for "the single fiducial pattern" in claim 1. Dependency should be changed to claim 14.

Claim 18 is indefinite because there is no proper antecedent for "said driver".

Claim 23 is indefinite because it has no proper antecedent for "said optically transparent plate" in claim 21. Dependency should be changed to claim 22.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4, 6-7, 9, 14-15, 20, 21, 32-33, 35, 37-42, 46, 48-49, 51, 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Hara et al.

Hara et al. discloses a projection device comprising:

a light source (3) ;

optical engine means (6R, 6G, 6B) which splits light from the source into red, green, and blue wavelength bands;

spatial light modulators (2R, 2G, 2B) which provide image data and plural fiducial marks (P1, P2);

combiner means (10R, 10G, 10B) which combines the modulated wavelengths;

a diverter (41) which combines a portion of the combined modulated beams to a sensor (42), which senses relative positions of the fiducial marks and sends the information to processing means (71) which determines x, y, and angle deviation errors;

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actuator means comprising screws(55, 56, 57) with motor means (58, 59, 60) which move to resolve the errors, as well as a focus position, by moving the modulators and attached optical holding means.

5. Claims 1-2, 4-9, 14-15, 20, 21,22-23, 32-33, 35-42, 46, 48-49, 51, 52 are rejected under 35 U.S.C. 102(e) as being anticipated by Gyoten et al.

Gyoten et al. disclose a projection and alignment arrangement comprising:

a light source (111) ;

optical engine means (107, 106, 104) which splits light from the source into red, green, and blue wavelength bands;

spatial light modulators (108, 109, 110) which provide image data and pattern fiducial marks which are generated in various manners;

combiner means (102, 103, 105) which combines the modulated wavelengths;

a diverter (112) which directs a portion of the combined modulated beams to a sensor (114), which senses relative positions of the pattern fiducial marks and sends the information to processing means (116) which determines x, y, and angle deviation errors (Figure 29+) or inclination error data (Figure 15+);

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actuator means comprising screws (Figure 16 for inclination and z motion, figure 27 for x, y, rotation) with motor means (511, 512, 513) which move to resolve the errors, as well as a focus position, by moving the modulators and attached optical holding means. Window (404) of holder is an optical transparent plate

As noted in Column 20 lines 53-65, all adjustments may be combined to enact 6 degrees of freedom adjustment.

Further, as noted in column 21 Lines 36-39, the use of such a system may be used in conjunction with DMD type modulators.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 3, 26, 34, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara et al.

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Hara et al. discloses the invention substantially as claimed but does not specify the use of piezo-electric motors as the motor means.

It is well known in the art to utilize piezo-electric motors means in electronic devices.

Lacking any criticality to the functioning of the invention, it would have been obvious too one skilled in the art at the time of the invention to utilize piezo-electric types motors as the motor means in order to provide stepwise movement of a screw.

Further, it is well known to move two panels relative to a fixed third panel when aligning modulator panels, and official notice is given of this fact.

As regards claims 10-13, and 28-31, both continuous and period determination of errors is deemed to be well within the level of ordinary skill because one of ordinary skill could have programmed the microprocessor to process the information as often as desired.

8. Claims 3, 34, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gyoten et al.

Gyoten et al. discloses the invention substantially as claimed but does not specify the use of piezo-electric motors as the motor means.

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It is well known in the art to utilize piezo-electric motors means in electronic devices.

Lacking any criticality to the functioning of the invention, it would have been obvious too one skilled in the art at the time of the invention to utilize piezo-electric types motors as the motor means in order to provide stepwise movement of a screw.

Allowable Subject Matter

9. Claim 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. Claims 16-17, 19, 24-25, 27, 43-45, 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claim 53 is allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Dowling whose telephone number is 703-308-1287. The examiner can normally be reached on Mon.-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be

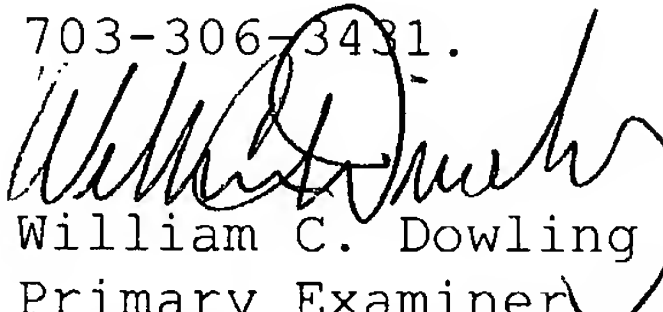
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reached on 703-308-2847. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.


William C. Dowling
Primary Examiner
Art Unit 2851

wcd